# Humanizing Cues:
# Nonresponse Analysis and Fieldwork Recommendations*

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## Introduction

In survey methodology, humanizing cues refer to procedures, implemented by web surveys, that imitate the interviewer and substitute some interviewer tasks (Tourangeau et al. 2003). Humanizing cues typically take the form of a movie showing an interviewer asking questions (e.g., Fuchs 2009; Haan et al. 2017) or virtual agents (Lind et al. 2013; Conrad et al. 2015); however, humanizing surveys can also be performed in a more traditional manner, with an interviewer presenting photos (e.g., Tourangeau et al. 2003) or audio files (e.g., Couper et al. 2003). Use of humanizing cues has its roots in social interface theory (Nass et al. 1996; 1997; Fogg and Nass 1996), which states that ascribing human-like qualities to a computer during a computer-human interaction can elicit reactions typical of those elicited by human-to-human interactions. Incorporating human-like features into computer-assisted survey interview may therefore improve the level of survey respondent engagement while exploiting the relatively high level of perceived anonymity that accompanies a web survey (Tourangeau et al. 2003; 2013).

Our experimental study aimed to determine the influence of humanizing cues on the quality of data obtained by internet surveys, with particular attention given to interviewer effect and the respondents' tendencies to shortcut cognitive processes, i.e., satisficing (Krosnick 1991). The field experiment was based on a multifactorial design using completely randomized groups. The form of imitation/presence of the interviewer was the major independent variable and its

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four values constitute four web survey modes with different levels of humanizing procedures[†]:

- CAWI-we—regular web survey with no interviewer imitation; some elements of first-person plural form are used, e.g., "We would like you look at the following statements."
- CAWI-name—regular web survey with the information about interviewer's name provided in in the introduction (i.e., "Hi, my name is…"); some elements of first-person singular form are used, e.g., "I would like to proceed to the next section."
- CAWI-photo—web survey as described in CAWI-name, enriched with the interviewer's photo visible on the screen during the entire interview.
- CAWI-film—web survey presenting video files with the interviewer asking questions and presenting answer options (only the latter are shown on the screen).

Representations of ten interviewers (five males, five females) were used to ensure that mode effect did not overlap with the interviewers' individual characteristics (Krysan and Couper 2003). Also, as all the respondents were of similar (student) ages, we employed interviewers who were students in order to exclude age-related variables.

In this paper, we focus on the item-nonresponse-related methodological data from the experiment. We give an overview of the distribution of drop-outs across different modes and the average number of questions answered by participants who decided to quit the questionnaire. We aim to assess whether these two factors are related to the type of mode and hence to the level of humanization of the interview.

**Methodology**

Our study was conducted between December 2016 and March 2017 among students of the University of Lodz in Poland. Using the internal university HR register, we sent email invitations to all 26,242 Polish, full-time students enrolled in studies during the 2016/2017 academic year. Respondents were asked to complete a questionnaire accessible via a link included in the message. As an incentive, respondents were informed that for each completed questionnaire, 1 PLN (≈0.30 EUR) would be donated to a charity chosen by the respondent. A list of possible charity organizations was provided at the end of the questionnaire.

[†] There was also CAPI mode utilized within the experiment as an additional frame of reference. Data related to that mode is not presented in this paper.

Each respondent entering the survey was randomly assigned to one of four modes: CAWI-we, CAWI-name, CAWI-photo, or CAWI-film. To ensure a set minimum number of participants in each mode (100, 200, 200, and 200 participants, respectively), assignment to a particular mode was blocked when the minimum enrollment was met. Only after the minimum number of participants were assigned to all four modes did the system unblocked this access.

Here, we present data on all respondents who began the questionnaire. We focus only on the respondents who replied to the email invitation sent at the beginning of the fieldwork (prior to the first reminder). A total of 1,743 respondents met this condition. Within this group, the following participants began completing the individual questionnaires: 108—CAWI-we, 534—CAWI-name, 621—CAWI-photo, and 480—CAWI-film.

## Results

Table 1 shows the percentages of completed questionnaires and drop-outs across different modes. A drop-out was defined as an interview that was initiated by the respondent (by answering at least one question) but was not completed.

**Table 1**

**Status of the interview by CAWI mode [percentages]**

| | | Mode | | | | Total |
|---|---|---|---|---|---|---|
| | | CAWI-we | CAWI-name | CAWI-photo | CAWI-film | |
| Interview status | drop-out | $38_a$ | $43_a$ | $45_{ab}$ | $53_b$ | 46 |
| | completed | $62_a$ | $57_a$ | $55_{ab}$ | $47_b$ | 54 |

N=1,743; chi-square(3)=13.733; p<0.01; Cramer's V=0.089. Subscript letters denote subsets of mode categories whose column proportions do not differ significantly from each other at p<0.05 level.

As can be seen, the percentage of drop-outs was related to survey mode. Specifically, as the intensity of model humanization increased, so did the the likelihood that a respondent would quit the questionnaire. Although not all differences are significant, the tendency for the respondent to drop out was lowest in the least 'humanized' technique (CAWI-we) and highest in the most 'humanized' technique (CAWI-film). Although globally there was no significant

association between interview status and respondent gender[‡], in the current study, the drop-out rate was significantly higher among males using the CAWI-photo[§] technique.

We evaluated another nonresponse metric, whether the average number of answered questions (among people who eventually did not complete the interview) was associated with CAWI mode. There were no significant differences between interview modes in the mean number of answered questions among respondents who decided not to finish the questionnaire. Detailed data is presented in Table 2.

**Table 2**

**Average number of answered questions among drop-out respondents by CAWI mode**

| | Mode | | | | Total |
|---|---|---|---|---|---|
| | CAWI-we | CAWI-name | CAWI-photo | CAWI-film | |
| Mean | 18.93 | 19.56 | 19.30 | 18.10 | 18.98 |

N=801; F(797,3)=0.171; p=0.916.

## Discussion

The results show that the average number of questions answered by the participants did not differ across CAWI modes. However, differences in the drop-out frequency did differ by technique. Contrary to our expectations, the more ‘humanized‘ the interview technique, the higher the chance that respondents will terminate the interview.

These results raise the following questions: “Why does humanization increase interview drop-out rates?” and “How to improve the level of respondent engagement while incorporating human-like features into web survey interviews?”

Further research is necessary to determine the reasons for these results and to further investigate use of human-like features in computer-assisted survey data collection.

[‡] Chi-square(1)=0.298; p=0.585.
[§] Chi-square(1)=5.502; p<0.05; Cramer’s V=0.094.

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